



IANDIORIO & TESKA

INTELLECTUAL PROPERTY LAW ATTORNEYS

Joseph S. Iandiorio
Kirk Teska
Jason D. Shanske
Thomas E. Thompson, Jr.
Roy J. Coleman
David W. Poirier

260 BEAR HILL ROAD
WALTHAM, MASSACHUSETTS 02451-1018

Tel: (781) 890-5678
Fax: (781) 890-1150
e-mail: admin@iandiorio.com
web: www.iandiorio.com

AF/2855

February 26, 2004

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SUBJECT: Applicants: Williams et al.
Serial No: 09/954,655
Filed: September 18, 2001
For: MOLECULAR RECOGNITION
SENSOR SYSTEM
Examiner: Cygan, Michael T.
Group: 2855
Confirm. No.: 7504
Docket No: DR-326J

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Dear Sir:

Enclosed is a RESPONSE in reply to the Final Office Action mailed February 19, 2004 in the subject Application.

If for any reason this RESPONSE is found to be INCOMPLETE, or if at any time it appears that a TELEPHONE CONFERENCE with counsel would help advance prosecution, please telephone the undersigned, or his associates, collect in Waltham, Massachusetts, at (781) 890-5678.

If any payment during prosecution is found to be incorrect, please charge any deficiency or credit any overpayment to my Deposit Account No. 09-0002. A copy of this letter is enclosed for use by the Finance Branch in the event that it is necessary to make any charge or credit to my deposit account.

In addition, pursuant to Rule 1.136(a)(3), the Office is hereby authorized to treat any future reply requiring an extension of time as incorporating a request therefor. Also, any request or Petition for an Extension of Time notwithstanding an inadvertent reference

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February 26, 2004
Page 2

in the Petition to a shorter period of time is to be treated as requesting the appropriate length of time.

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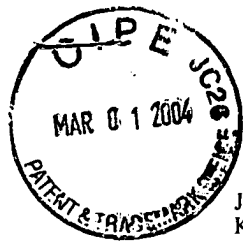
David W. Poirier
Reg. No. 43,007

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Enclosure

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Wynne D. Janis



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Wynne D. Janis



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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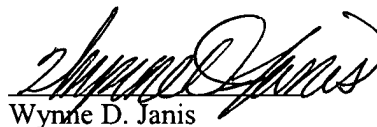
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February 26, 2004.


Wynne D. Janis

**RESPONSE UNDER C.F.R. 1.116 – EXPEDITED PROCEDURE
GROUP 2855**

This Response is in reply to the Final Office Action mailed February 19, 2004 in the subject application. In response to the Office Action, please consider the Applicant's remarks as follows.

Remarks/Arguments begin on page 2 of this paper.

REMARKS

Applicants appreciate the Examiner's thorough examination of the application and request reexamination and reconsideration of the application in view of the preceding amendments and the following remarks.

The Examiner indicates that claims 14-17 allowable. Applicants would like to thank the Examiner for the indication of allowable subject material.

The Examiner rejects claims 1-4 and 9-11 under 35 U.S.C. §103(a) as allegedly being unpatentable over *Piletsky* in view of *McGeehin* and claims 7 and 8 over *Piletsky* in view of *McGeehin* and further in view of *Ambos*.

The subject invention relates to a resistive sensor which swells when exposed to an analyte and interferents and a molecular imprinted resistive sensor which swells when exposed to interferents only. Since the molecular imprinted resistive sensor is imprinted with the analyte, it does not swell in the presence of the analyte. Rather, it swells only in the presence of the interferents. A circuit connected to the resistive sensor and the molecular imprinted resistive sensor subtracts the change in resistance of the molecular imprinted resistive sensor from the change in resistance of the resistive sensor to reduce the effect of the interference thereby determining the presence and concentration of the analyte. See claim 1 of the subject application, *infra*.

The Examiner stated in a prior Office Action dated September 29, 2003 that *Piletsky* teaches an imprinted resistive sensor and a non-imprinted resistive sensor and that the change in resistance for both sensors is measured and compared.

This is not true. *Piletsky* teaches the formation of an imprinted polymer and states

that the signals obtained with the imprinted polymers so formed were better than with non-imprinted sensors: "The signals obtained with the non imprinted membranes were 5-10 fold lower than those obtained with the imprinted ones (data not shown)." *Piletsky*, pg. 2138.

However, not only does *Piletsky* fail to teach or suggest using the combination of an imprinted and a non-imprinted resistive sensor in a single system to detect analytes, it actually teaches away from the combination. In suggesting that the performance of an imprinted sensor is 5-10 fold greater than a non-imprinted sensor, *Piletsky* clearly teaches that it is undesirable to use a non-imprinted sensor. Thus one skilled in the art would not read *Piletsky* and have the motivation to combine it with a reference that teaches the use of non-imprinted sensors. Since *Piletsky* teaches against the use of non-imprinted sensors, it is improper for the Examiner to combine *Piletsky* with a reference that teaches non-imprinted sensors such as *McGeekin* nor *Ambos*. Accordingly, the Examiner's combination of these references is improper.

Even if the disclosures of *Piletsky* and *McGeekin* were combined, the claimed invention would not be obtained. *McGeekin* only discloses the use of two sensors to only enhance the response of a desired analyte. See *McGeekin* at p.3, line 57-p.4, line 7 and p. 5, lines 50-55. The combination of *Piletsky* and *McGeekin* would not provide a molecular recognition sensor system that includes a resistive sensor and a molecular imprinted resistive sensor to determine the presence and concentration of the analyte, as claimed by Applicant. *McGeekin* fails to teach or suggest that it is possible to determine the concentration of an analyte in the presence of an interferent by using two sensors and the

combination of *Piletsky* and *McGeehin* does not overcome this deficiency.

Claim 1 of the subject invention recites: “A molecular recognition sensor system comprising: a resistive sensor including a semiconductive polymer film which swells when exposed to an analyte and interferents; a molecular imprinted resistive sensor including a semiconductive polymer film imprinted with the analyte which thereby swells when exposed to interferents; and a circuit connected to the resistive sensor and the molecular imprinted resistive sensor for detecting a change in the resistance of the resistive sensor when exposed to the analyte and the interferents, the change in the resistance of the molecular imprinted resistive sensor when exposed to the analyte and interferents, and for subtracting the change in resistance of the molecular imprinted resistive sensor from the change in resistance of the resistive sensor to reduce the effect of any interferents on the change in resistance of the resistive sensor thereby determining the presence and concentration of the analyte.” (Emphasis added.) As noted above, *Piletsky*, *McGeehin* and *Ambos*, either alone or in combination, do not teach or suggest a circuit connected to both a molecular imprinted and a non-imprinted resistive sensor to subtract the change in resistance of the molecular imprinted resistive sensor from the non-imprinted resistive sensor to reduce the effect of the interferents and to determine the presence of the concentration of the analyte as disclosed and claimed in the subject application.

Accordingly, the combination of references cited by the Examiner is improper. Even if the references are combined, however, the combination of references fails to disclose or suggest the claimed invention. Thus, claims 1-13 are patentable over the cited references.

If for any reason this Response is found to be incomplete, or if at any time it appears that a telephone conference with counsel would help advance prosecution, please telephone the undersigned or his associates, collect in Waltham, Massachusetts at (781) 890-5678.

Respectfully submitted,

A handwritten signature in cursive script, reading "David W Poirier".

David W. Poirier
Reg. No. 43,007